# California Solar Initiative
# Research Development, Demonstration and Deployment Program

## Pre-Bid Webinar for
## Solicitation #1: PV Grid Integration

**July 23, 2009**
**10:00 am**

Itron

GO solar CALIFORNIA

# Agenda

- **Review Agenda / Purpose for Pre-bid**
- **Overview of CSI RD&D Program**
- **Overview of Solicitation**
  - *Purpose*
  - *Funding Available*
  - *Priority areas and targets*
  - *Match Funding Requirements*
  - *Key Dates*
- **Proposal and Submittal Requirements**
  - *Submittal Requirements*
  - *Application Package Requirements*
- **Proposal Screening, Review and Selection**
- **Questions and Answers**

# CSI RD&D Program

**Purpose: Help build a sustainable and self-supporting industry for customer-sited solar in California**

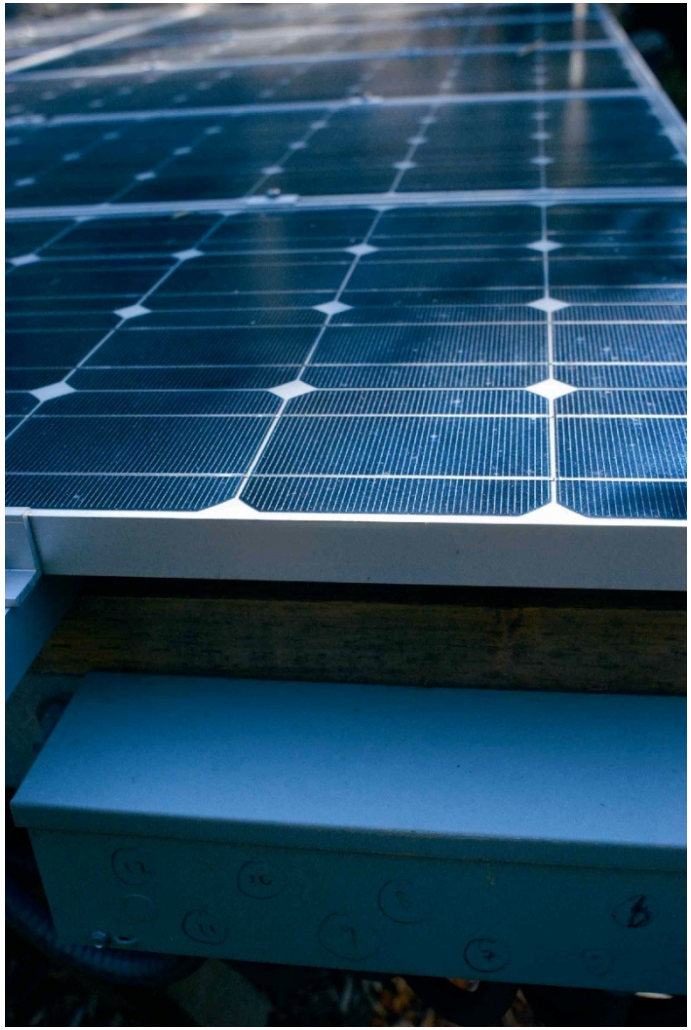
**Objectives:**

- **Help lower solar technology electricity prices to levels where they are comparable to retail electricity prices, and**
- **Help support the deployment of distributed solar to accomplish the CSI goal of 3000 MW by 2016**

**Funding: $50 million authorized by SB1**

**Target Activities:**

- **Grid Integration**
- **Production Technologies**
- **Business Development and Deployment**



# Overview of CSI RD&D Solicitation #1

- First Solicitation will focus on Grid Integration of Photovoltaics (PV) into the utility grid
- Priority areas within Grid Integration include:
  - *Planning and modeling for high-penetration PV*
  - *Testing and development of hardware and software for high-penetration PV, and*
  - *Addressing the near-term integration of energy efficiency, demand response and energy storage with PV*
- Participation open to all types of businesses and organizations
- Individuals may submit only one proposal per solicitation
- Proposed research must focus on CA-specific issues and provide benefits to CA ratepayers

# Planning and Modeling for High-Penetration PV

- **Planning, design and modeling issues that need addressing include:**
  - ***Existing solar resource models lack the ability to forecast solar output at high PV penetration levels***
  - ***Solar model forecast outputs are not validated by metered PV performance over large system populations***
  - ***Existing solar resource model applications are not integrated with utility load or resource forecasting datasets for high penetration of PV***
  - ***Transmission and distribution models do not allow for identification for optimal location of high penetration PV***

# Testing / Development of Hardware / Software for High-Penetration PV

- **Successful grid-integration of high-penetration PV requires robust grid-PV communication, control systems and operating procedures. Hardware and software needs include:**
  - ***Field testing and demonstrations for improved monitoring and communications software and systems***
  - ***Field testing and demonstrations of improved control systems and operations***
  - ***Field testing and demonstrations of integrated subsystems within the distribution system (mini or micro-grids)***
  - ***Field testing and demonstrations of optimally locating high-penetration PV within the T&D system***

# Integration of EE/DR/ES with PV

- **Customers do not have the tools to optimize energy efficiency, demand response and energy storage with PV**
- **Activities that could assist in the near-term integration of EE/DR/ES with PV include:**
  - ***Modeling tools for identifying and implementing an optimal and cost-effective integration of energy efficiency measures and PV system sizing within the retrofit market***
  - ***Field test and monitor the effectiveness of scenarios and approaches for integrated and optimized EE/DR/ES and PV***
  - ***Develop a 'best practices' approach to integrated EE/DR/ES and PV***

# Estimated Target Funding Levels

| Target Area | Planning & Modeling for High-Penetration PV | Testing & Demonstration of Hardware/Software for High-Penetration PV | Addressing the Near Term Integration of EE/DR/ES and PV | Totals |
|---|---|---|---|---|
| Estimated Funding for Area | $2 million | $10 million | $3 million | $15 million |
| Estimated Per-project funding | $200k - $1 million | $1 million - $3 million | $500k - $1 million | N/A |
| Estimated # projects | 3-8 | 3-6 | 3-6 | 9 - 20 |

# Match Funding Requirements

- A minimum of 25% match funding is a requirement of this solicitation
- Match can be cash or in-kind services
- Match can come from a variety of sources including the applicant, federal or state government (including ARRA) industry, utilities or other entities
- Match funding will be evaluated through the proposal review and selection process

# Key Dates for this Grant Solicitation

| | |
|---|---|
| **Grant Solicitation Released** | **July 8, 2009** |
| **Pre-Bid Webinar** | **July 23, 2009 at 10 am** |
| **Submitting Solicitation Questions** | **Through July 24, 2009** |
| **Posting of Responses** | **On or before July 31, 2009** |
| **Due Date for Grant Proposals** | **August 24, 2009 at 4 pm PDT** |
| **Estimated date for CPUC Approval** | **December 3, 2009** |
| **Estimate Grant Start Date** | **Mid-December 2009** |

# Proposal and Submittal Requirements

- Electronic submission is required
  - Proposal should be single PDF file
  - Submit to www.CalSolarResearch.ca.gov
  - Applicant will receive an e-mail confirmation if receipt
- Applicant must also mail one original copy along with supporting documentation
- Do not submit proprietary or confidential information with your application!
- All applications are due no later than 4:00 P.M. (PDT) on Monday, August 24, 2009

# Application Package Requirements

- **Application Package must include the following:**
  - Grant Application Cover Page
  - Project Summary
  - Project Goals
  - Project Performance/Cost Objectives
  - Approach and Scope of Work
  - Project Personnel
  - Task and Budget Summary
  - Match Funding
  - Schedule of Deliverables
  - Feasibility
  - Market Connection
- **Please note page limits**

# Proposal Screening, Review and Selection

- Proposals will be screened for completeness and conformity with solicitation requirements
- Proposals that pass screening will be reviewed by independent technical experts
- Technical reviews will be provided to Scoring Committee
- Scoring Committee will independently review and score proposals
- Scoring Committee's final individual scores will be averaged to produce the final score
- Proposals must receive a total average score of 150 points (out of 200 possible) to be included in the final ranking
- Top scoring proposals will be recommended for consideration by the CPUC

# *Questions and Answers*